

Tissue	Biomarker	Methodology	Turnaround time (lab)	Clinical Significance
General				
	Comprehensive Cancer Panel	NGS	10 working days	This Panel includes 409 cancer "driver" genes and is designed to decipher the coding DNA sequences (CDS) and splice variants of multiple gene families, including apoptosis genes, DNA repair genes, transcriptional regulators, inflammatory response genes and growth factor genes
	Focused Cancer Panel	NGS	7 working days	This panel includes 50 key, actionable, predictive and prognostic genes from all cancer types
	Comprehensive/ Focused Cancer Panel Plus	NGS + IHC	10/7 working days	In addition to the NGS panel, a selected group of markers with predictive response to chemotherapy and biologic therapies is stained using techniques such as IHC, pIHC, FISH,
	Liquid Biopsy	CTCs, ctDNA analysis	7-10 working days	ctDNA and CTCs based assay for sequencing T790M, and FISH stainings for ALK, ROS1, MET, HER2, ER
	PDL-1, PD-1, CD8, CD4	IHC	5-7 working days	Predicts response to Anti PDL-1 therapies
	T/B Cell-Receptor Repertoire Sequencing	NGS	5-7 working days	Ultra sensitive tracking of Minimal Residual Disease in ALL, CLL, MM, DLBCL and MCL
Lung				
	EGFR	PCR	5-7 working days	Predicts for a positive response to EGFR-targeted therapies (e.g. erlotinib, gefitinib and afatinib)
	ROS1	FISH or RT-PCR	5-7 working days	Predicts for a positive response to crizotinib
	RET	FISH	5-7 working days	Predicts for a positive response to TKI therapies (e.g. cabozantinib)
	MET	FISH	5-7 working days	Predicts for lack of response to radiotherapy and EGFR-targeted TKI therapies (e.g. gefitinib)
	HER2	Sequencing	5-7 working days	Predicts response to HER2-targeted therapies (e.g. trastuzumab, pertuzumab and lapatinib)
	FGFR1	FISH	5-7 working days	Predicts for a positive response to FGFR-targeted agents currently used in clinical trials
	ERCC1	RT-PCR	5-7 working days	Predicts for a lack of response to platinum-based therapies
	RRM1	RT-PCR	5-7 working days	Predicts for a positive response to gemcitabine
	TS	RT-PCR	5-7 working days	Predicts for a lack of response to 5-FU and pemetrexed-based therapies
Colon				
	KRAS	PCR	5-7 working days	
	PI3KCA	Sequencing	5-7 working days	Predicts for a positive response to PI3K pathway targeted therapies in clinical trials
	cMET	RT-PCR	5-7 working days	Predicts for a positive response to MET targeted agents in clinical trials and negative response to EGFR-targeted therapies
	EGFR	RT-PCR	5-7 working days	Predicts for a positive response to EGFR-targeted therapies
	KRAS	PCR	5-7 working days	Predicts for a lack of response to EGFR antagonist therapies (e.g. cetuximab and panitumumab)
	BRAF	PCR	5-7 working days	Predicts for a lack of response to EGFR antagonist therapies (e.g. cetuximab and panitumumab)
	MSI	PCR	5-7 working days	Predicts for a positive response to 5-FU and irinotecan
	ERCCI	RT-PCR	5-7 working days	Predicts for a lack of response to platinum-based therapies
	NRAS	Sequencing	5-7 working days	Predicts for a lack of response to EGFR antagonist therapies (e.g. cetuximab and panitumumab)
	PI3K	Sequencing	5-7 working days	Predicts for a lack of response to EGFR antagonist therapies (e.g. cetuximab and panitumumab)
	EGFR	Sequencing	5-7 working days	Predicts for a lack of response to EGFR antagonist therapies (e.g. cetuximab and panitumumab)

Tests List - October 2015

TS	RT-PCR	5-7 working days	Predicts for a lack of response to 5-FU and pemetrexed-based therapies
MET	FISH	5-7 working days	Predicts for lack of response to EGFR therapies
UGT1A1	Sequencing	5-7 working days	Predicts for adverse response to Irinotecan
VEGFR2	RT-PCR	5-7 working days	Predicts for response to angiogenesis inhibitors
CellSearch(R),Colon	CTC count	7-10 working days	This test can detect the presence of circulating tumor cells (CTC) in the peripheral blood of patients . Physicians can draw samples prior to a new line of therapy for baseline prediction. Physicians can also draw samples at the first follow-up visit for evaluating response to therapy.

Melanoma

BRAF	PCR	5-7 working days	Predicts for a positive response to antibody therapy (e.g. ipilimumab) and BRAF targeted therapies such as vemurafenib and dabrafenib
NRAS	Sequencing	5-7 working days	Predicts for a positive response to MEK targeted agents currently in clinical trials such as trametinib
NRAS	Sequencing	5-7 working days	Predicts for a positive response to MEK targeted agents currently in clinical trials such as trametinib
cKIT	Sequencing	5-7 working days	Predicts for sensitivity to TKIs (e.g. imatinib, sunitinib, regorafenib)

Gastric

HER2	FISH	5-7 working days	Predicts for a positive response to trastuzumab and lapatinib
ERCCI	RT-PCR	5-7 working days	Predicts for a lack of response to platinum-based therapies
TS	RT-PCR	5-7 working days	Predicts for a lack of response to 5-FU and pemetrexed-based therapies
cKIT	Sequencing	5-7 working days	Predicts for sensitivity to TKIs (e.g. imatinib, sunitinib, regorafenib) in GIST tumors

Breast

HER2	FISH	5-7 working days	Predicts for sensitivity to trastuzumab and lapatinib
FGFR1	FISH	5-7 working days	Potentially predicts for a positive response to FGFR-targeted therapy
P13K	Sequencing	5-7 working days	Predicts for resistance to HER2 TKIs (e.g. trastuzumab, pertuzumab and lapatinib)
CellSearch(R),Breast	CTC count	7-10 working days	This test can detect the presence of circulating tumor cells (CTC) in the peripheral blood of patients . Physicians can draw samples prior to a new line of therapy for baseline prediction. Physicians can also draw samples at the first follow-up visit for evaluating response to therapy.
Tamoxifen P450 Genotype	PCR, SNP-IT	7-10 working days	Cytochrome 450 2D6 Genotype detects eight alleles associated with the poor metabolizer phenotype (PM)
Tamoxifen and Metabolites	LC/MS/MS	7-10 working days	This test determines the amount of active drug in an individual patient. It can be used to optimize tamoxifen dosage and assess patient adherence to therapy

Thyroid

RET	FISH	5-7 working days	Predicts for a positive response to TKI therapies (e.g. sorafenib, sunitinib and cabozantinib)
BRAF	PCR	5-7 working days	Predicts for a positive response to BRAF targeted therapies such as vemurafenib and dabrafenib
KRAS	PCR	5-7 working days	Helps to differentiate between benign and malignant tumors in patients with an FNA diagnosis of follicular neoplasm
NRAS	Sequencing	5-7 working days	Helps to differentiate between benign and malignant tumors in patients with an FNA diagnosis of follicular neoplasm

Brain

Tests List - October 2015

EGFRvIII	RT-PCR	5-7 working days	Predicts for a positive response to EGFRvIII-targeted therapeutics in clinical development
MGMT	RT-PCR	5-7 working days	Predicts response to alkylating chemotherapy agents in patients with glioma
1p/19q	FISH	5-7 working days	Predicts for increased survival of patients diagnosed with low grade gliomas to temozolomide
IDH1 and IDH2	Sequencing	5-7 working days	Predicts for better survival for patients affected by astrocytoma, oligodendroglioma or glioblastoma

Prostate

CellSearch(R), Prostate	CTC count	7-10 working days	This test can detect the presence of circulating tumor cells (CTC) in the peripheral blood of patients . Physicians can draw samples prior to a new line of therapy for baseline prediction. Physicians can also draw samples at the first follow-up visit for evaluating response to therapy.
--------------------------------	-----------	-------------------	--

AML/MDS

AML / MDS NEXT GEN SEQUENCING LEUKEMIA PANEL	NGS	7-10 working days	Genotyping Panel delivers information on predictive and prognostic mutations commonly involved in acute myelogenous leukemia and myelodysplasias
---	-----	-------------------	--

Hereditary panels

Inherited Disease Panel	NGS	5-6 weeks	This Panel which offers coverage on over 300 genes associated with over 700 unique inherited diseases including neuromuscular, cardiovascular, developmental and metabolic diseases
Hereditary Breast Cancer/ Colon Panel	NGS	5-6 weeks	A panel of 19/11 genes which are known to be high-risk breast/colon cancer susceptibility genes, including comprehensive sequencing of the BRCA1 and BRCA2 genes for Breast Cancer panel
BRCAVantage(TM) Plus	PCR	3-4 weeks	BRCAVantage Plus screens for mutations (point mutations, deletions, and duplications) in the BRCA1 and BRCA2 genes as well as in five additional genes: TP53, PTEN, CDH1, STK11, and PALB2

Tissue of Origin™ Tests

Tissue	Methodology	Number of Genes	Tissue Tested
ResponseDX: Tissue of Origin Test	Microarray	3-4 weeks	Breast, Lung, Thyroid, Pancreas, Gastric, Hepatocellular, Colorectal, Non-Hodgkin Lymphoma, Sarcoma, Ovarian, Testicular Germ Cell, Prostate, Bladder, Kidney, Melanoma
ResponseDX: Tissue of Origin Endometrial Test	Microarray	3-4 weeks	Endometrial, Ovarian
ResponseDX: Tissue of Origin Lung and Head & Neck Test	Microarray	3-4 weeks	Squamous Lung, Squamous Head & Neck